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Hewlett-Packard Company P.O. Box 272400 Fort Collins,, CO 80527-2400			ALBERTALLI, BRIAN LOUIS	
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			2655	

DATE MAILED: 06/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/005,909	THOMAS ET AL.
	<b>Examiner</b> Brian L Albertalli	<b>Art Unit</b> 2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on 10 February 2005.

2a) This action is **FINAL**.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) 1-25 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-25 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____.

## DETAILED ACTION

### ***Response to Amendment***

1. The amendments to the claims have been entered. Claims 1-3, 5-11, 13-17, and 19 are currently amended and new claims 20-25 have been added.

### ***Response to Arguments***

2. Applicant's arguments filed February 10, 2005 have been fully considered but they are not persuasive.

In response to the Applicant's arguments that Polcyn does not disclose "masking" the verbal interaction between the caller and the operator, the Examiner notes that the Applicant admits (see page 15, 1<sup>st</sup> paragraph of Applicant's arguments) that Polcyn discloses the operator instructs the call director to prompt the user for additional information. Furthermore, the operator can input data (such as instructing the call director) through the agent terminal or agent telephone (column 6, lines 30-31). The prompting is carried out by the remote call director 102-N, which is a standard call director that has the ability to conduct a dialog with the caller (see column 3, lines 54-58 and column 6, lines 24-29). This allows a verbal communication between the operator and the caller without the operator and caller speaking to each other directly, and thus is equivalent to "masking" the interaction between the caller and the operator.

Additionally, the remote call director is controlled by the operator through commands. These commands instruct the remote call director to prompt the user for additional information (see column 6, lines 24-29). The prompts are passed to the caller

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through a standard telephone (Fig. 1, 16-N). The commands must inherently be synthesized into voice in order to be presented to the user on the telephone. This point is further emphasized by the fact that the operator can enter the commands to the remote call director to prompt the user through the agent terminal (column 6, lines 30-31). In order to convert these commands to a dialog, which is then presented to a caller audibly through a telephone, a text-to-speech synthesizer must be utilized.

The Applicant has submitted that Polcyn provides three levels of automation, and has emphasized the word "recording" (see page 16 of Applicant's arguments), presumably to refute the Examiner's contention that a text-to-speech synthesizer is inherent. However, this recording refers to a recording of the caller's query input and is not related in any way to the presentation of dialog by the remote call director.

Regarding the added limitation that the interactive voice response unit interacts with the caller *through predetermined responses*, and the operator can verbally interact with the caller *regardless of the predetermined responses available to the voice response unit*, Polcyn discloses the operator instructs the remote call director to initiate predetermined or additional dialog with the caller (see column 4, lines 52-55). The operator clearly has the ability to provide responses outside the available predetermined responses.

3. Therefore, the rejections made in the previous Office Action stand.

***Specification***

4. The amendments to the title overcome the objections made in the previous Office Action. The objections to the title are withdrawn.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 24 and 25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claim 24, there is no indication in the specification that a synthesized voice that is presented to a caller is constructed from actual voice utterances of the operator. Furthermore, this would go against the teaching of the entire invention, since the purpose of the claimed invention is to *mask the operator's speech*.

Regarding claim 25, while the specification does disclose that the operator can call upon an audio server to play material considered appropriate (see page 6, lines 13-14), there is no indication that the audio from the audio server is used to create a synthesized speech utterance. Synthesizing speech from prerecorded audio requires sophisticated search and matching techniques to find the appropriate snippets of audio

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used to create the synthesized speech, and a means for concatenating those snippets of audio to produce intelligible speech. This is much different than simply selecting audio material and playing it back to the caller.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-5, 7-13, and 15-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Polcyn (U.S. Patent 6,614,885).

In regard to claim 1, Polcyn discloses a voice service system comprising:  
an interactive voice response unit for interactively dealing with a call from a human caller by using predetermined responses (Fig. 1, call director 102-N includes predetermined dialog, column 3, lines 54-59 and column 4, lines 52-55),  
an operator subsystem by which a human operator can verbally interact with the caller by giving appropriate responses regardless of the predetermined responses available to the voice response unit, the operator subsystem including a masking arrangement for causing the verbal interaction between the operator and the caller to be done through a synthesized voice whereby to mask from the caller that the caller is

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talking to a human operator (Fig. 3, detail of the large vocabulary speech recognition system 30 includes an agent/operator management application 33, column 6, lines 19-23; the operator instructs the call director 102-N to initiate additional dialog with the user, through commands entered by agent terminal 15 or agent telephone 14, the call director 102-N conducts the dialog with the caller and thus masks from the caller that the caller is talking to a human operator, column 4, lines 52-55 and column 6, lines 24-31), and

a transfer arrangement for transferring handling of the call from the operator subsystem to the voice response unit (after an utterance is passed to the live operator, the operator passes control to the call director 102-N to re-prompt the caller, column 4, lines 48-55);

In regard to claim 2, Polcyn discloses the masking arrangement comprises text response means for generating text messages from the operator, and means for passing said messages to a text-to-speech converter for output to the caller (the operator inputs data through the agent terminal 15, column 6, lines 31-32).

Agent terminal 15 is clearly shown in Fig. 1 and Fig. 3 as a standard computer terminal with a keyboard. The data entered through agent terminal 15 by the operator, therefore, must inherently be text messages.

Furthermore, in Fig. 1, it is clear that the caller uses a standard telephone 16-N that conveys information to a caller audibly. The interaction with the caller is conducted through call director 102-N, which "operates like prior art call directors" and "conducts a

dialog with the caller" (column 3, lines 54-58). The text messages entered by the operator, then, must inherently be converted from text to speech in a text-to-speech converter within call director 102-N.

In regard to claims 3,11, and 17, Polcyn discloses the text-to-speech converter is part of the voice response unit and is arranged for providing the same synthesized voice to the caller whether the call is being handled by the operator subsystem or by the voice response unit (all commands sent by the operator control the remote director 102-N functions which prompts the user for additional information, column 6, lines 25-30; doing so eliminates the conversation of the operator with the caller and makes it appear that the call was handled without a live operator, column 2, lines 47-54).

In regard to claim 4, 12, and 18, Polcyn discloses the text response means comprises a keyboard for operator entry of text messages (the operator inputs data through the agent terminal 15, column 6, lines 30-31; agent terminal 15 is clearly shown in Fig. 1 and Fig. 3 as a standard computer terminal with a keyboard).

In regard to claim 5, 13, and 19, Polcyn discloses text response means comprises a speech recognizer for receiving voice input from the operator and generating text messages (the operator inputs data through agent telephone 14 which is analyzed by speech recognition system 30, column 6, lines 31-34).

In regard to claim 7, Polcyn discloses the transfer arrangement includes an analysis subsystem for analyzing the caller input when the voice response unit is handling the call whereby to determine whether the caller requires operator assistance; the analysis subsystem being operative, upon determining that the caller requires operator assistance, to cause the transfer arrangement to transfer the call to the operator subsystem (if the caller's utterance is not recognized by the large vocabulary speech recognition system 30, which indicates that operator assistance is needed to complete the interaction, the utterance is transferred to a live operator, column 4, lines 37-40).

In regard to claim 8, Polcyn discloses a voice service system comprising an interactive voice response unit for interactively dealing with a call from a human caller by using a predetermined response (Fig. 1, call director 102-N includes predetermined dialog, column 3, lines 54-59 and column 4, lines 52-55), an operator subsystem by which a human operator can verbally interact with the caller by giving responses regardless of the predetermined responses available to the voice response unit (Fig. 3, detail of the large vocabulary speech recognition system 30 includes an agent/operator management application 33, column 6, lines 19-23), and transfer means for transferring handling of the call between the voice response unit and the operator subsystem (call director 102-N transfers the caller's response to central speech recognition system 30, column 4, lines 8-18; which, in turn, transfers the response to the live operator, column 4, lines 36-39); the voice service system having masking means for causing the

operator's verbal interaction with the caller to be done through a synthesized voice whereby to mask from the caller that they are now talking to a human operator (the operator instructs the call director 102-N to initiate additional dialog with the user, through commands entered by agent terminal 15 or agent telephone 14, the call director 102-N conducts the dialog with the caller and thus masks from the caller that the caller is talking to a human operator, column 4, lines 52-55 and column 6, lines 24-31), the transfer means being usable by the operator to have handling of a call transferred to the voice response unit (the agent sends commands to the remote control director 102-N which prompts the user for additional information, column 6, lines 25-30).

In regard to claim 9, Polcyn discloses a method of providing voice services in respect of a call placed by a human caller, the method comprising the steps of:

- (a) carrying out an verbal interaction between the caller and a human operator (control of the call is passed to a live agent, column 6, lines 62-65);
- (b) at the instigation of the operator, transferring the call to an interactive voice response unit (agent enters codes at terminal 15 to call director 102-N to complete the call, column 7, lines 2-5); and
- (c) continuing verbal interaction with the caller through the voice response unit by using predetermined responses (call director 102-N includes predetermined dialog, column 3, lines 54-59 and column 4, lines 52-55) the operator's verbal interaction with the caller in (a) by giving appropriate responses regardless of the predetermined responses available to the voice response unit (the operator instructs the call director

102-N to initiate additional dialog with the user, column 4, lines 52-55) being done through a synthesized voice whereby to mask from the caller that they are talking to a human operator (the remote control director 102-N which prompts the user for additional information, column 6, lines 25-30; through commands entered by agent terminal 15 or agent telephone 14, the call director 102-N conducts the dialog with the caller and thus masks from the caller that the caller is talking to a human operator, column 6, lines 24-31).

In regard to claim 15, Polcyn discloses a method of providing voice services in respect of a call placed by a human caller, the method comprising the steps of:

- (a) enabling voice interaction between the caller and a voice response unit (call director 102-N interacts with the caller, column 6, lines 49-51);
- (b) analyzing the caller's interaction with the voice response unit to determine whether the caller requires operator assistance (confidence level of speech recognition application 32 is checked, column 6, lines 62-64) ;
- (c) in response to the analysis indicating operator assistance is required, transferring the call to a human operator (if the confidence level of speech application 32 is not high enough, control of the call is passed to a live agent, column 6, lines 64-65); and
- (d) carrying out a verbal interaction between the caller and a human operator, said verbal interaction being unrestricted by the range of responses available for output

by the voice response unit and being done through a synthesized voice whereby to mask from the caller that they are talking to a human operator (the agent sends commands to the remote control director 102-N which prompts the user for additional information, column 6, lines 25-30; the operator instructs the call director 102-N to initiate additional dialog with the user, through commands entered by agent terminal 15 or agent telephone 14, the call director 102-N conducts the dialog with the caller and thus masks from the caller that the caller is talking to a human operator, column 4, lines 52-55 and column 6, lines 24-31).

In regard to claim 10 and 16, Polcyn discloses the operator's verbal interaction with the caller includes generating a text message from operator input and passing this message through a text-to-speech converter to output the operator input in said synthesized voice (the operator inputs data through the agent terminal 15, column 6, lines 31-32).

Agent terminal 15 is clearly shown in Fig. 1 and Fig. 3 as a standard computer terminal with a keyboard. The data entered through agent terminal 15 by the operator, therefore, must inherently be text messages.

Furthermore, in Fig. 1, it is clear that the caller uses a standard telephone 16-N that conveys information to a caller audibly. The interaction with the caller is conducted through call director 102-N, which "operates like prior art call directors" and "conducts a dialog with the caller" (column 3, lines 54-58). The text messages entered by the

operator, then, must inherently be converted from text to speech in a text-to-speech converter within call director 102-N.

In regard to claims 20 and 21, Polcyn discloses the operator subsystem is arranged to enable the operator to also verbally interact with the caller by causing the voice response unit to output an operator-selected one of said predetermined responses (the operator instructs call director 102-N output a predetermined dialog to the caller, column 4, lines 48-55).

In regard to claim 22, Polcyn discloses a method comprising:

- a caller calling a called station (a caller calls their remote location 12-N, column 3, lines 46-49);
- the called station responding to the caller by transmitting a first predetermined synthesized speech message to the caller (the call director 102-N in remote location 12-N presents the caller with a set of choices for self-directing the call, column 3, lines 54-68);
- the caller responding to the first predetermined synthesized speech message in a manner causing a human operator associated with the call to respond with speech utterances (if the caller's utterance is not recognized by the large vocabulary speech recognition system 30, which indicates that operator assistance is needed to complete the interaction, the utterance is transferred to a live operator, column 4, lines 37-40; the live operator instructs the call director 102-N to perform additional dialog with the user

through voice commands input through telephone 14, column 4, lines 48-55 and column 6, lines 30-31);

synthesizing the speech utterances (the remote call director is controlled by the operator through commands. These commands instruct the remote call director to prompt the user for additional information (see column 6, lines 24-29). The prompts are passed to the caller through a standard telephone (Fig. 1, 16-N). The commands must inherently be synthesized into voice in order to be presented to the user on the telephone); and

transmitting the synthesized speech utterances to the caller so the synthesized speech utterances appear to the caller to be from the same source as the first predetermined synthesized speech message (the dialog is carried out by the call director 102-N, thus the synthesized voice used to interact with the caller would be the same as that used initially, column 4, lines 52-55).

#### ***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 6 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Polcyn, in view of Galvin (U.S. Patent 5,874,939).

Polcyn does not disclose that the text messages output by the speech recognizer are passed to an editing console of the operator subsystem to enable the operator to check and edit the messages prior to output to the text-to-speech converter.

Galvin discloses a method and apparatus for allowing users to input text via a speech recognizer. Text messages output by the speech recognizer are passed to an editing console of the operator subsystem to enable the operator to check and edit the messages (when recognized word has not been recognized with a predetermined degree of accuracy the most likely candidate is shown on a display; the operator can then enter the correct word using the keyboard, column 4, lines 49-54 and column 4 line 67 to column 5 line 3).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Polcyn to pass the text messages output by the speech recognizer to an editing console so the user could manually correct any inaccuracies generated by the speech recognizer, which would increase the accuracy of the speech recognition process, as taught by Galvin (column 4, lines 46-48 and column 5, line 46 to column 6, line 1).

11. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Polcyn.

Polcyn discloses:

the caller responding to the synthesized speech utterance by transmitting a further message to the called station (prompting the user for additional information requires that the user respond to give that information, column 6, lines 25-29); and

performing further action once the caller input is recognized (by transferring the call or playing a pre-recorded message column 4, lines 34-36).

Polcyn does not disclose the called station responding to the further message by transmitting a second predetermined synthesized message to the caller so the second predetermined synthesized message appears to the caller to be from the same source as the first predetermined synthesized message and the synthesized speech utterances (once the caller's request is recognized, the caller is directly connected to the requested service).

Official notice is taken that it is notoriously well known and recognized in the art to include a courtesy message (such as "One moment, please") before transferring a caller, in order to ease the transition for the caller and to account for any delays that may occur in processing the request.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Polcyn to transmit a second predetermined message (such as "One moment, please") to the caller through the call director 102-N before transferring the call, in order to ease the transition for the caller and to account for any delays that may occur in processing the request.

12. Claims 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Polcyn, in view of Cecys (U.S. Patent 5,930,755)

Polcyn does not disclose how synthesized speech utterances are constructed.

Flanagan et al. disclose a method for synthesizing speech by using voice sources and recorded audio sources (see Abstract and column 5, lines 41-43).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Polcyn to synthesize speech utterances from the actual voice utterance of the operator or recorded audio sources, in order to provide a higher quality synthesized speech sound, as well as a greater range of synthesized speech sounds, as taught by Cecys (column 5, lines 43-46).

### ***Conclusion***

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian L Albertalli whose telephone number is (571) 272-

7616. The examiner can normally be reached on Mon - Fri, 8:00 AM - 5:30 PM, every second Fri off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on (571) 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BLA 6/7/05

W. R. YOUNG  
PRIMARY EXAMINER